



CITY OF MANCHESTER, NEW HAMPSHIRE

INDUSTRIAL PRETREATMENT PROGRAM ANNUAL REPORT

**JUNE 1, 2020
THROUGH
MAY 31, 2021**

**Prepared by:
Department of Public Works/ Environmental Protection Division
Christopher J. Crowley**

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Public Works Director

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CITY OF MANCHESTER
Department of Public Works
Environmental Protection Division

July 29, 2021

No. 21-21-MO

Justin Pimpare
EPA New England
5 Post Office Square
Suite 100
OEP 06-3
Boston, MA 02109-3912

Dear Mr. Pimpare,

On behalf of the City of Manchester, Environmental Protection Division (EPD), please find attached the 2020/2021 Annual Industrial Pretreatment Program (IPP) Report. The report summarizes the activities of the IPP and the status of all permitted Significant Industrial Users that discharged to the facility from June 1, 2020 to May 31, 2021. Also, included is EPA's revised Compliance Status Work Sheet and the Town of Londonderry, New Hampshire 2020/2021 Annual Report.

In addition to the IPP activities, this report also details required sampling results for the Wastewater Treatment Plant's Influent, Effluent, and Sludge included in Section Five Appendices F, G, and H.

If you have any questions regarding this report, please contact me at (603) 624-6513.

Sincerely,

Christopher J. Crowley
Pretreatment Supervisor

Copy / Enclosure:

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Kevin A. Sheppard, P.E., Public Works Director
Timothy J. Clougherty, Deputy Public Works Director
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CITY OF MANCHESTER
Department of Public Works
Environmental Protection Division

July 29, 2021

No. 21-22-MO

Alexis Rastorguyeff, PE, SE III
NHDES, Industrial Pretreatment Supervisor
Wastewater Engineering Bureau
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Dear Mr. Rastorguyeff,

On behalf of the City of Manchester, Environmental Protection Division (EPD), please find attached the 2020/2021 Annual Industrial Pretreatment Program (IPP) Report. The report summarizes the activities of the IPP and the status of all permitted Significant Industrial Users that discharged to the facility from June 1, 2020 to May 31, 2021. Also, included is EPA's revised Compliance Status Work Sheet and the Town of Londonderry, New Hampshire 2020/2021 Annual Report.

In addition to the IPP activities, this report also details required sampling results for the Wastewater Treatment Plant's Influent, Effluent, and Sludge included in Section Five Appendices F, G, and H.

If you have any questions regarding this report, please contact me at (603) 624-6513.

Sincerely,

Christopher J. Crowley
Pretreatment Supervisor

Copy / Enclosure:

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EPA Region 1 Annual Pretreatment Report Summary Sheet

POTW Name: City of Manchester, NH. Environmental Protection Division (EPD)
NPDES Permit NH0100447

Pretreatment Report Period Start Date: June 1, 2020

Pretreatment Report Period End Date: May 31, 2021

of Significant Industrial Users (SIUs): 16

of SIUs Without Control Mechanisms: 0

of SIUs not Inspected: 0

of SIUs not Sampled: 0

of SIUs in Significant Noncompliance (SNC) with Pretreatment Standards: 0

of SIUs in SNC with Reporting Requirements: 0

of SIUs in SNC with Pretreatment Compliance Schedule: 0

of SIUs in SNC Published in Newspaper: 0

of SIUs with Compliance Schedules: 0

of Violation Notices Issued to SIUs: 0

of Administrative Orders Issued to SIUs: 0

of Civil Suits Filed Against SIUs: 0

of Criminal Suits Filed Against SIUs: 0

of Categorical Industrial Users (CIUs): 0

of CIUs in SNC: 0

Penalties

Total Dollar Amount of Penalties Collected \$ 0

of IUs from which Penalties have been collected: 0

Local Limits

Date of Most Recent Technical
Evaluation of Local Limits:

9/25/2015- Part of NPDES
Permit Review Process

Date of Most Recent Adoption of
Technically Based Local Limits:

August 5, 1997

Pollutant

Limit (mg/l)

MAHL (lb./day)

Local Limits

Below is listed the maximum concentrations of chemicals allowed in the effluent discharge of any Manchester industry, commercial, business or residential establishment. Design Plant Flow when Local Limits were established were 34 MGD.

Pollutant	Limit (mg/l)	MAHL (lb./day)
Copper	4.55 mg/l	290.26 lb./day
Cyanide (total)	2.86 mg/l	810.98 lb./day
Lead	0.94 mg/	266.55 lb./day
Mercury	0.023 mg/l	6.52 lb./day
Silver	0.90 mg/l	255.20 lb./day
Zinc	10.42 mg/l	2,954.69 lb./day

Screening Levels

Below is a list of acceptable maximum concentrations for certain chemicals. If one of these levels is exceeded by any industry, commercial establishment, business or residential unit then the situation causing the excess contaminant will be reviewed by EPD's monitoring staff. A permit will be issued that reflects the negotiated allowable discharge concentration for that particular parameter. Certain current permits have limits that are above these screening limits, but other safeguards are written into these specific individual permits to offset the increased pollutant discharge.

Pollutant	Limit (mg/l)	MAHL (lb./day)
Benzene	0.13 mg/l	36.86 lb./day
BOD	350 mg/l	99,246.00 lb./day
Carbon Disulfide	0.06 mg/ l	17.01 lb./day
Chlorine	1,500 mg/ l	425,340.00 lb./day
Chloroform	0.41 mg/l	116.26 lb./day
1,2 Dichloroethylene	0.28 mg/l	79.40 lb./day
Sulfide	1.0 mg/l	283.56 lb./day
Sulfate	150 mg/l	42,534.00 lb./day
Sulfate- 1 (for type II concrete structures)	1,500 mg/	425,340.00 lb./day
Sulfite	280 mg/l	79,396.80 lb./day
Suspended Solids	350 mg/l	99,246.00 lb./day
Tetrachloroethylene	0.53 mg/l	150.28 lb./day
1,1,1 trichloroethane	1.55 mg/l	439.52 lb./day
Trichloroethene	0.71 mg/l	201.33 lb./day
Oil & Grease - (Petroleum or mineral origin, Method 1664 HEM/SGT)	100 mg/l	28,356.00 lb./day
Oil & Grease (Animal & vegetable origin, Method 1664 HEM)	350 mg/l	99,246.00 lb./day



City of Manchester, NH Environmental Protection Division (EPD)
June 1, 2020 to May 31, 2021
IPP Annual Report

Information Required By EPA

Section One

An updated list of all industrial users by category, as set forth in 40 CFR 403.8(f)(2)(i), indicating compliance or noncompliance with the following:

Part 1 - 1 Compliance with Baseline Monitoring Requirements and 90-Day Compliance Reports for Newly Promulgated Industries.

There were no 90-day Compliance Reports required during the monitoring period of June 1, 2020 through May 31, 2021. However, The City of Manchester, Environmental Protection Division (EPD) does require all Class I Industries that are renewing their discharge permits to submit a sampling report which includes additional parameters beyond baseline to be tested with their permit application.

Included at the end of this section is *Appendix A*, which includes a worksheet that lists all Class I Industrial Users (CIUs / SIUs). The worksheet includes the following: permitted average flows, category, and type of pretreatment and permit expiration date. Also included is *Appendix B*, which lists the Class II and *Appendix C*, which lists the Class III Industrial Users.

Part 1 - 2 Compliance Status Reporting Requirements for Newly Promulgated Industries.

All Industries that are subject to monitoring requirements are up to date with their responsibilities. EPD issued one new permit and renewed two permit(s) for the Significant Industrial User Classification I (SIU's) during the reporting period of June 1, 2020 through May 31, 2021.

Part 1 - 3 Periodic (Semi-Annual) Monitoring Reporting Requirements.

The Class I listing, located at the end of Section One and in *Appendix D*, is the EPD Industrial Inspection & Sampling Worksheet which tracks and verifies compliance. All of the Class I CIUs / SIUs are listed on this sheet. The list contains the name and category of each industry, permit number, and the permit expiration date. The names and dates are summarized on Page 4, Part 2-3, Summary of Compliance and Enforcement Activities for Compliance Schedules Issued.

Part 1 - 4 Compliance with Categorical Standards.

There were no industries that violated their categorical limits for the reporting period of June 1, 2020 through May 31, 2021. All industry sampling reports are documented in the City's LINKO database and noted in *Appendix D*. Due to the COVID-19 pandemic, Sterling Laundry Permit No. 1004 remains temporarily closed since March 2020 and no sampling or inspections have been conducted. EPD will continue to monitor and update inspections and sampling status upon re-opening.

City of Manchester, NH Environmental Protection Division (EPD)
June 1, 2020 to May 31, 2021
IPP Annual Report

Part 1 - 5 Compliance with Local Limits

The City is pleased to report that there were no compliance issues with Local Limits during the reporting period of June 1, 2020 through May 31, 2021. As noted in Part 1-4 and Section Three, there is still one industry that temporary closed its operation on March 2020, Sterling Laundry No. 1004. Presently EPD has not heard any notification if they will resume operations.

City of Manchester, NH Annual IPP Report
June 1, 2020 - May 31, 2021

APPENDIX - A
Class I / Significant Industrial Users

IPP Monitoring

Type of Business	Facility Name	Permit No.	Location	Avg. Flow GPD	CFR	Company Representative	Pretreatment	Permit Expires
Cleaning Services								
1) Closed 2/9/21	Cintas Corporation	1065	324 Taylor Street	38,500	SIU	Robert Hipert		4/30/2025
2) Closed 2/9/21	Cintas Corporation	1066	324 Taylor Street	13,700	SIU	Robert Hipert	DAF	4/30/2025
3)	E&R Cleaners	1068	80 Ross Ave	70,600	SIU	Dave Ciripompa		8/31/2025
4)	Sterling Laundry	1004	39 Beech Street	95,000	SIU	Glen Stevens		1/31/2022
Metal Finisher								
5)	Jewell Instrument	1024	850 Perimeter RD	3,700	433	Patty Konstantopoulos	pH Adjustment	12/31/2025
Plastic Production								
6)	NYCOA	1015	333 Sundial Ave	285,000	414	Sabre Strout	Settling Tank	5/31/2022
Semi-Conductor								
7)	XMA	1040	7 Perimeter Road	560	469	Stephen Traski	pH Adjustment	3/30/2022
Textile Manufacturing								
8)	Velcro USA	1019	95 Sundial Ave	80,100	SIU	Jerryry Slark	pH Adjustment	11/30/2025
9)	General Cable	1007	345 McGregor St.	23,700	SIU	Sara Janik		1/31/2025
Hospital								
10)	Elliot Hospital	1041	1 Elliot Way	69,400	SIU	Brad Smith		5/31/2022
11)	Catholic Memorial	1107	100 McGregor St	68,900	SIU	Brian Ramsey		5/31/2022
12)	Veterans Medical Center	1018	718 Smyth St.	45,000	SIU	Amanda Furtado		5/31/2022
13)	Dartmouth Hitchcock	1032	100 Hitchcock Way	25,000	SIU	Timothy Bishop		3/31/2026
Un-Classified								
14)	Manchester Landfill	1102	Front Street	100,000	SIU	City of Manchester		2/28/2022
Specialty Industry								
15)	Lyophilization (LSNE)	1005	1 Sundial Street	114,000	SIU	Greg Stevenson		8/30/2025
16)	Freudenberg-NOK	1006	50 Ammon Dr.	8,600	428	Kevin Smith	Calfran/pH	11/30/2025

City of Manchester, NH Annual IPP Report
June 1, 2020 - May 31, 2021

APPENDIX - B
Class II Industrial Users

IPP Monitoring

	Facility Name	Permit No.	Location	Avg. Flow GPD	Company Representative	Description of Facility	Permit Expires
1)	Hitachi Cable America Inc.	2000	900 Holt Avenue	3,000	Dave Murray	Plastic wrap wire cable	11/30/2024
2)	CRYO Industries	2001	11124 South Willow Street	1,000	Kelcie O'Conner	Cryogenic Equipment	2/28/2024
3)	Western Foods	2005	299 Pepsi Road	4,000	Dave Martin	Food bakery	3/31/2024
4)	Chuckles	2013	11925 South Willow Street	2,500	Chuck Frank	Mfg. of Soaps	3/31/2023
5)	Blake's Manchester Creamery	2015	46 Milford Street	2,000	Richard Wolstencroft	Mfg. of Ice Cream	5/31/2024
6)	Budd Foods	2016	431 Somerville Street	10,000	Fredrick Hayes Jr.	Mfg. of Frozen Pies	11/30/2022
7)	H&O Dental	2017	1050 N. Perimeter Road	250	Michelle Maradiaga	Mfg. of False Teeth	5/31/2024
8)	New England Document Systems	2020	780 E. Industrial Park Drive	850	Nick Brattan	Store Microfiche	11/30/2022
9)	Eliot at Rivers Edge	2041	185 Queen City Ave.	7,000	Kristen Petrin-Doucet	Patient Care/Lab-Sterilization	8/31/2021
10)	NH Plastics (1 Bouchard)	2042	One Bouchard Street	1,000	Harold Young	Plastic Moldings	5/31/2024
11)	NH Plastics (315 Bouchard)	2043	315 Bouchard Street	1,600	Ralph Tremblay	Plastic Moldings	5/31/2024
12)	Kyzen Corporation	2044	540 N. Commercial St.	475	Mike Doucette	Solutions for Circuit Ind.	7/31/2025
13)	Symmetry Medical Inc. Polyvac	2046	253 Abby Road	1,900	Ernie Fuller	Mfg. Medical trays	11/30/2024
14)	Summit Packaging Systems Inc.	2047	400 Gay Street	2,300	Chris Gallo	Mfg. Aerosol valves	7/31/2025

City of Manchester , NH Annual IPP Report
June 1, 2020 - May 31, 2021

APPENDIX - C
Class III Industrial Users

IPP
Monitoring

Facility Name		Permit No.	Permit Expires	Facility Name		Permit No.	Permit Expires
1	The Doctor's Office	3001	7/31/25	35	Henry's Collision Center	3061	6/30/23
2	Pepsi Cola	3002	1/31/24	36	Soil-Away Salem, NH	3063	7/31/24
3	Granite State Manufacturing	3003	4/30/26	37	A-1 Steam Cleaning	3065	1/31/24
4	USPS	3004	5/31/24	38	Starks Brewery	3066	2/28/23
5	Knoetner	3005	5/31/24	39	Servpro of Man/Derry	3070	3/31/24
6	Lung Biotechnology PBC	3006	8/31/25	40	Walgreens 227 S. Main St.	3077	11/30/23
7	Stanley Mitsubishi	3007	7/31/25	41	Holloway Cars of Man.	3083	7/31/25
8	Enterprise Holdings	3008	7/31/25	42	Team Nissan	3089	7/31/24
9	M.L. Halle	3009	7/31/25	43	Manchester Subaru	3090	7/31/25
10	Secondwind	3011	4/30/26	44	AutoFair Honda	3091	7/31/25
11	BAE Oasis	3012	6/30/22	45	Quirk Parts Warehouse	3092	5/31/21
12	Best Qualified Cleaning Inc.	3013	Closed	46	AutoFair Hyundai	3093	7/31/25
13	Signature Flight Support	3015	11/30/23	47	Merrimack Street Volvo	3094	7/31/25
14	Brentag Lubricants	3016	2/28/24	48	Merrimack Street Volvo	3095	7/31/25
15	R & L Carriers	3017	2/28/24	49	Bonneville & Son Inc.	3097	11/30/24
16	Quirk 1250 S. Willow St.	3018	11/30/23	50	State Motors Car Wash	3102	7/31/25
17	Quirk 1100 S. Willow St.	3019	7/31/25	51	Kalwall Corp. - Pine Street	3104	7/31/25
18	Quirk Works - Porter St	3020	11/30/23	52	Keller Products	3105	7/31/25
19	Steralon	3021	7/31/25	53	IRA Toyota	3109	4/30/26
20	Manchester Armory	3022	4/30/21	54	Conway Express	3112	7/31/24
21	Frank's Signs	3023	4/30/24	55	CVS Pharmacy (271 Mammoth)	3113	7/31/24
22	AutoFair Ford	3025	8/1/24	56	Kalwall Corp. - 1111 Candia	3120	3/31/23
23	PMC Wire & Cable	3029	6/30/24	57	Prestige Auto Body Inc.	3122	9/30/22
24	U-Haul	3031	8/1/24	58	FedEx Ground Package System	3123	9/30/22
25	Admix	3033	8/1/24				
26	Crawford Vogel & Wenzel	3037	4/26/26				
27	Certified Maintenance Ser	3043	11/30/23				
28	Liberty Trucks	3039	10/31/20				
29	Eversource 73 West Brook St.	3047	2/28/25	Special / Temporary Discharge Permit			
30	Eversource 80 West Pennacook	3048	2/28/25	T-3001-10-20 The Factory, LLC			12/30/2020
31	Eversource 1580 Elm Street	3042	2/28/25	T-3001-1-21 NYCOA Site Dewatering			3/31/2021
32	PSNH 780 N.Commercial St.	3051	7/31/23				
33	Texas Instruments	3053	5/31/22				
34	Kimark Specialty Box Co.	3057	8/1/24				

City of Manchester, NH Annual IPP Report
June 1, 2020 - May 31, 2021

APPENDIX - D
Class I/Significant Industrial Users
EPD Industrial Inspections & Sampling Worksheet

IPP Monitoring

EPA Classification	Permit No.	Facility Name	Permit Expires	EPD Inspection City Required	EPD Sampling City Required	July - Dec (20) Self-Mon. Rpt. Ind. Required	July - Dec (20) Flow Rpt. Ind. Required	Jan - June (21) Self-Mon. Rpt. Ind. Required	Jan - June (21) Flow Rpt. Ind. Required
1	SIU	1005	Lyophilization-LSNE	8/31/2025	5/12/2021	5/12/2021	12/4/2020	12/4/2020	6/14/2021
2	SIU	1065	Cintas Corporation	4/30/2025	2/9/2021	Closed	12/4/2020	12/4/2020	6/15/2021
3	SIU	1066	Cintas Corporation	4/30/2025	2/9/2021	Closed	12/4/2020	12/4/2020	Closed
4	SIU	1068	E & R Laundry	8/31/2025	4/22/2021	4/29/2021	12/18/2020	12/15/2020	5/13/2021
5	SIU	1041	Elliot Hospital	5/31/2022	5/19/2021	5/19/2021	12/11/2020	12/11/2020	6/14/2021
6	CIU 428	1006	Freudenberg-NOK	11/30/2025	5/12/2021	5/12/2021	10/4/2020	12/11/2020	6/14/2021
7	SIU	1102	Front St. Landfill	2/28/2022	Not Required	Not Required	4/29/2020	Not Required	4/30/2021
8	CIU 433	1024	Jewell	12/30/2025	5/26/2021	Not Required	6/9/2020	6/9/2020	6/16/2021
9	CIU 414	1015	NYCOA	5/31/2022	5/20/2021	4/29/2021	12/8/2020	12/6/2020	6/11/2021
10	SIU	1019	Velcro	11/30/2022	5/27/2021	4/29/2021	11/1/2020	11/1/2020	6/14/2021
11	CIU 469	1040	XMA Corporation	2/28/2022	4/5/2021	4/5/2021	12/8/2020	12/8/2020	6/10/2021
12	SIU	1018	VA Medical Center	1/31/2022	7/13/2021	5/24/2021	10/7/2020	12/15/2020	3/11/2021
13	SIU	1107	Catholic Medical	5/31/2022	5/24/2021	5/19/2021	12/14/2020	12/14/2020	6/11/2021
14	SIU	1007	General Cable	1/31/2025	5/25/2021	N/D	12/14/2020	12/14/2020	5/28/2021
15	SIU	1004	Sterling Laundry	1/31/2022	Covid -19	Covid -19	Covid -19	Covid -19	Covid -19
16	SIU	1032	Dartmouth Hitchcock	3/31/2026	4/30/2021	New Permit	New Permit	New Permit	5/26/2021

Town of Bedford

New Discharge Permit for Lyophilization-LSNE

Town of Londonderry

See 2020-2021 IPP Annual Report

Town of Goffstown

No permit activity

Notes:

1. Front Street is the City of Manchester's Landfill. The IPP staff maintains the permit and sampling activities.
2. N/D = No Discharge
3. Sterling Laundry closed its business in March 2020 due to COVID-19



City of Manchester, NH Environmental Protection Division (EPD)
June 1, 2020 to May 31, 2021
IPP Annual Report

Information Required By EPA

Section Two

Summary of Compliance and Enforcement Activities during the preceding year, including the number of:

Part 2 - 1 Significant industrial users inspected by POTW (include inspection dates for each industrial user)

The City of Manchester, (EPD) inspections are summarized on the Industrial Inspection and Sampling Worksheet *Appendix D* at the end of Section One. All Class I inspections were performed from June 1, 2020 through May 31, 2021. EPD also completed the Industrial Class II and Class III permit renewals for this monitoring period. EPD's enforcement tracking sheet is summarized on the Enforcement Response Worksheet *Appendix E* at the end of Section Three.

Part 2 - 2 Summary of significant industrial users sampled by the POTW.

The City of Manchester, EPD Industrial sampling is summarized on the Industrial Inspection and Sampling Worksheet *Appendix D* at the end of Section One. All Class I Industries sampling activities were performed from June 1, 2020 through May 31, 2021.

Below are the City's sampling activities that will continue throughout the upcoming reporting year:

1. The Town of Londonderry is monitoring the collection system quarterly for excess organic loading and sulfides generated due to the degradation of the high strength waste in the Londonderry sewer system. EPD will continue to monitor Londonderry wastestream for silver, copper, mercury, lead, zinc, selenium, aluminum and total phosphorous. EPD is continuing to collect data to determine excessive loadings to the treatment plant.
2. EPD has implemented extensive treatment plant effluent sampling as required by the current NPDES Permit NH0100447. The facility is sampling on a monthly basis for copper, lead and Total Phosphorous, Total Nitrogen and Ammonia-N from the final effluent. EPD will continue to sample for per-and poly fluoroalkyl substances (PFAS) including 16 compounds. Presently, EPD is sampling for the influent & effluent, dewatered sludge, ash lagoon solids, septage and the City landfill leachate for these PFAS compounds.
3. In the past, EPD has had ongoing issues with copper, silver, zinc, and mercury discharges from contributing towns (Bedford, Londonderry, and Goffstown). The sampling activities that were conducted this reporting period indicated that none of those towns exceeded their allowable discharge limits for the parameters sampled.

EPD will continue to monitor the contributing towns for the metals listed above and continue to monitor for aluminum and Total Phosphorous to determine whether or not they are contributing any excessive loadings to the treatment plant.

City of Manchester, NH Environmental Protection Division (EPD)
June 1, 2020 to May 31, 2021
IPP Annual Report

Part 2 - 3 Summaries of Compliance and Enforcement Activities for Compliance Schedules Issued.

There were no enforcement activities implemented for compliance schedules for the sixteen (16) CAT/SIU industries that are required to be permitted, sampled and inspected.

Listed below are the compliance schedules that the City of Manchester EPD issued for the Class I Industries that reissued a discharge permit over the reporting period of June 1, 2020 through May 31, 2021.

1. General Cable Industries Permit No. 1007 *Effective Date 2/1/2020*
2. E&R Laundry and Dry Cleanings Permit No. 1068 *Effective Date 10/1/2020*
3. Lyophilization Services of New England Permit No. 1005 *Effective Date 10/1/2020*
4. Jewell Permit No. 1024 *Effective Date 11/1/2020*
5. Velcro USA Inc. Permit No. 1019 *Effective Date 12/1/2020*
6. Freudenberg-NOK Permit No. 1041 *Effective Date 12/1/2020*
7. Dartmouth Hitchcock Medical Center Permit No. 1032 *Effective Date 4/1/2021*

On February 9, 2021 EPD conducted a close out inspection of two of its Class I Industries. Cintas Corporation closed its operation at both permitted facilities. Permits No. 1065 & 1066 are inactive.

Listed below are the compliance schedules that the City of Manchester, EPD issued for the Class II Industries that reissued a discharge permit over the reporting period of June 1, 2020 through May 31, 2021.

1. Kyzen Corporation Permit No. 2044 *Effective Date 8-1-2020*
2. Summit Packaging Systems LLC. Permit No. 2047 *Effective Date 8/1/2020*

Listed below are the compliance schedules that the City of Manchester, EPD issued for the Class III Industries that reissued a discharge permit over the reporting period of June 1, 2020 through May 31, 2021.

1. Granite State Manufacturing Permit No. 3003 *Effective Date 5/1/2021*
2. Lung Biotechnology PBC. Permit No. 3006 *Effective Date 9/1/2020*
3. Enterprise Holdings No. 3008 *Effective Date 8/1/2020*
4. M.L. Halle Permit No. 3009 *Effective Date 8/1/2020*
5. Secondwind Permit No. 3011 *Effective Date 5/1/2021*
6. Crawford Vogel & Wenzel Permit No. 3037 *Effective Date 5/1/2021*
7. Kalwall Corporation Permit No. 3104 *Effective Date 8/1/2020*
8. Keller Products Permit No. 3105 *Effective Date 8/1/2020*
9. IRA Toyota Permit No. 3109 *Effective Date 5/1/2021*

EPD also issued two Temporary Discharge Permits for dewatering sites located in the City.

1. The Factory, LCC –Site dewatering Permit No. T-3001-10-20 Effected from 12/30/20 to 2/28/2021.
2. NYCOA –Site dewatering Permit No. T-3001-21 Effected from 3/31/2021 to 5/30/2021.

City of Manchester, NH Environmental Protection Division (EPD)
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Part 2 - 4 Summaries of Compliance and Enforcement Activities for Written Notices of Violation Issued.

The City of Manchester, EPD, Industrial Enforcement Activities are summarized on the Enforcement Worksheet *Appendix E* at the end of Section Three. The City of Manchester, EPD did not issue any Written Notices of Violations during this reporting period.

Part 2 - 5 Summary of Compliance and Enforcement Activities Involving Administrative Orders Issued.

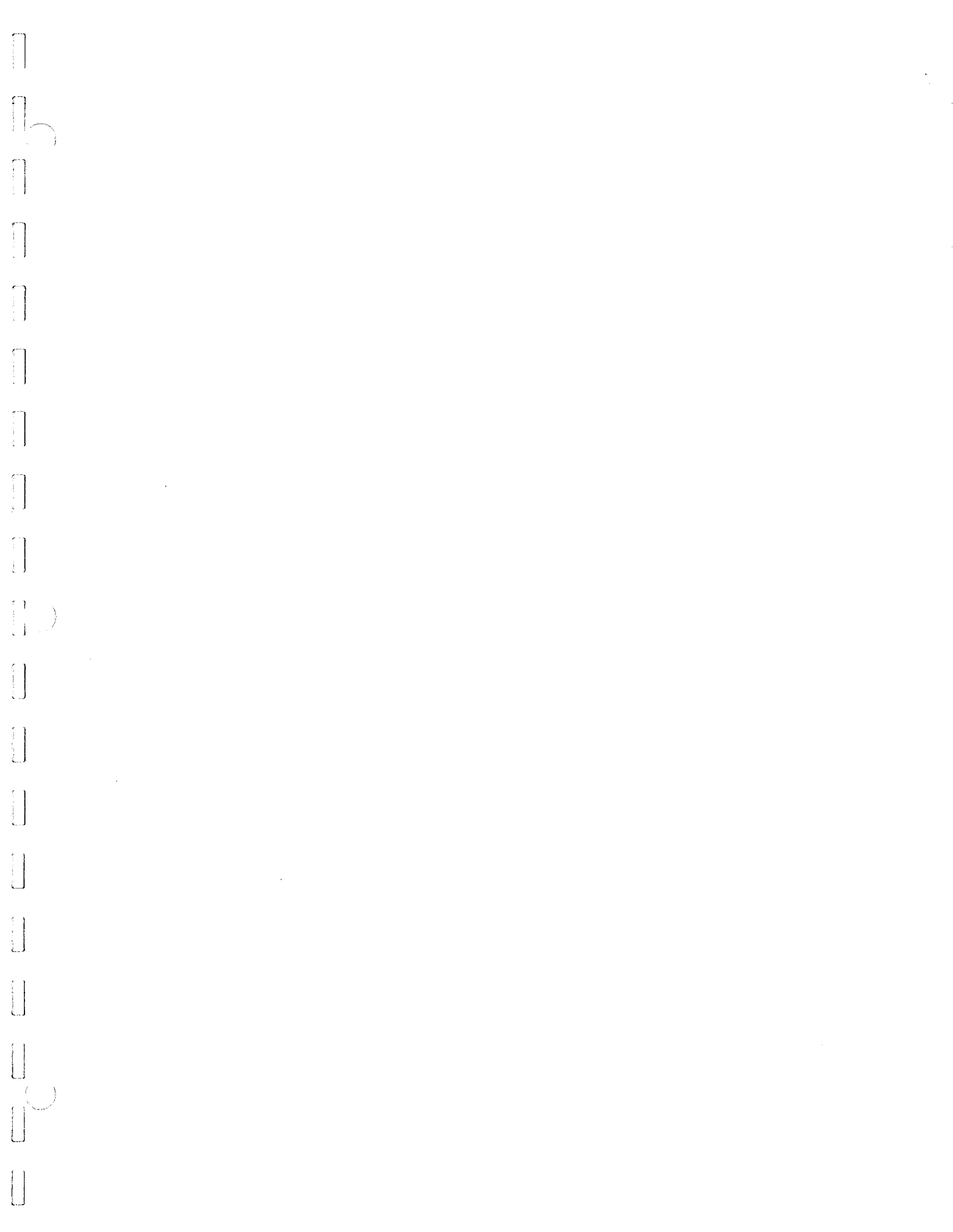
The City of Manchester, EPD did not issue any Administrative Orders during this reporting period.

Part 2 - 6 Summary of Compliance and Enforcement Activities Involving Civil or Criminal Suits Filed.

The City of Manchester, EPD did not file any Civil or Criminal Suits during this reporting period.

Part 2-7 Summary of Compliance and Enforcement Activities Involving Penalties Obtained.

The City of Manchester, EPD did not issue or collect any penalties to any permitted industries during this reporting period.



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Information Required By EPA

Section Three

List of Significantly Violating Industries Requiring Publication.

In review of this year's inspections, self-monitoring reports and submission of periodic compliance reporting, it was determined that all but one Class I Industry completed their reporting and monitoring criteria. The one Industry that failed to was Sterling Laundry.

The City of Manchester, EPD has determined not to issue a Notice of Violation (NOV) to Sterling Laundry for not conducting their reporting / sampling requirements during this monitoring period because they temporary closed its operations due to the pandemic. The City will continue to coordinate with Sterling's management on any progress and monitor any reopening of their operations. When and if they begin their operations, EPD will require Sterling to sample and submit their monitoring requirements.

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Information Required By EPA

Section Four

A Narrative Description of Program Effectiveness Including Present and Proposed Changes to the Program

Part 4 - 1 Effectiveness and Changes in Program.

The City of Manchester (EPD) operates a 34-MGD secondary activated sludge plant. The major components of the operation are grit removal, primary clarification, aeration, secondary settling and clarification, chlorination and dechlorination. Sludge is burned onsite through a fluidized-bed incinerator.

The City of Manchester has had an approved Industrial Pretreatment Program since 1980 that oversees three classifications of industrial users. The Class I are the CAT/SIU users. The Class II are industries that have certain permitted limitations. The Class III are industries that have either a silvery recovery unit or oil water separator. The City considers the Class II and III as non-SIU even though they do have a potential to upset the treatment facility. All permitted industries are evaluated and permits are renewed every 5 years.

EPD has initiated the recently issued EPA regulation §441.40 Pretreatment Standards for new sources (PSNS) for Dental Amalgam Separator Rule. Any new source subject to this part must comply with the requirements of §441.30(a) and (b) and the reporting and recordkeeping requirements of §441.50.

EPD has also prepared a Fats, Oil and Grease (FOG) program that will be implemented under the Phase IV CMOM program which is anticipated for later this year. Before implementing this program, the City will submit the documentations to the State of NH IPP Coordinator and EPA's Region I-Pretreatment Coordinator for their comments. In preparation of the FOG program, the City has developed educational brochures and door hangers to be used when a situation occurs.

EPD has updated the IPP webpage to be implemented on the City of Manchester's web site. Items which will include: a list of permitted industries; IPP sampling programs; IPP permit application information; City Septic Policy and procedures, details of the upcoming FOG program. The webpage will also provide additional links for the IPP annual reports. This is waiting to be approved and when it goes live, EPD will notify the State of NH IPP Coordinator and EPA's Region I-Pretreatment Coordinator.

Part 4 - 2 Narrative Description of Program Staffing.

The IPP Pretreatment program is administered by Christopher Crowley. The routine activities of the IPP program include: (1) All inspections and sampling activities for all the Class I permitted industries. (2) Sampling and maintaining the Intermunicipal activities which include City meter readings, sampling and sewer bills. (3) The IPP also supports an array of facility sampling which supports several monitoring programs as noted in previously in this report.

The City of Manchester, (EPD) Monitoring Department is divided into four (4) programs: CSO, CMOM, Stormwater and the Industrial Pretreatment Program (IPP).

City of Manchester, NH Environmental Protection Division (EPD)
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Part 4 - 3 Narrative Description of Funding and Resources

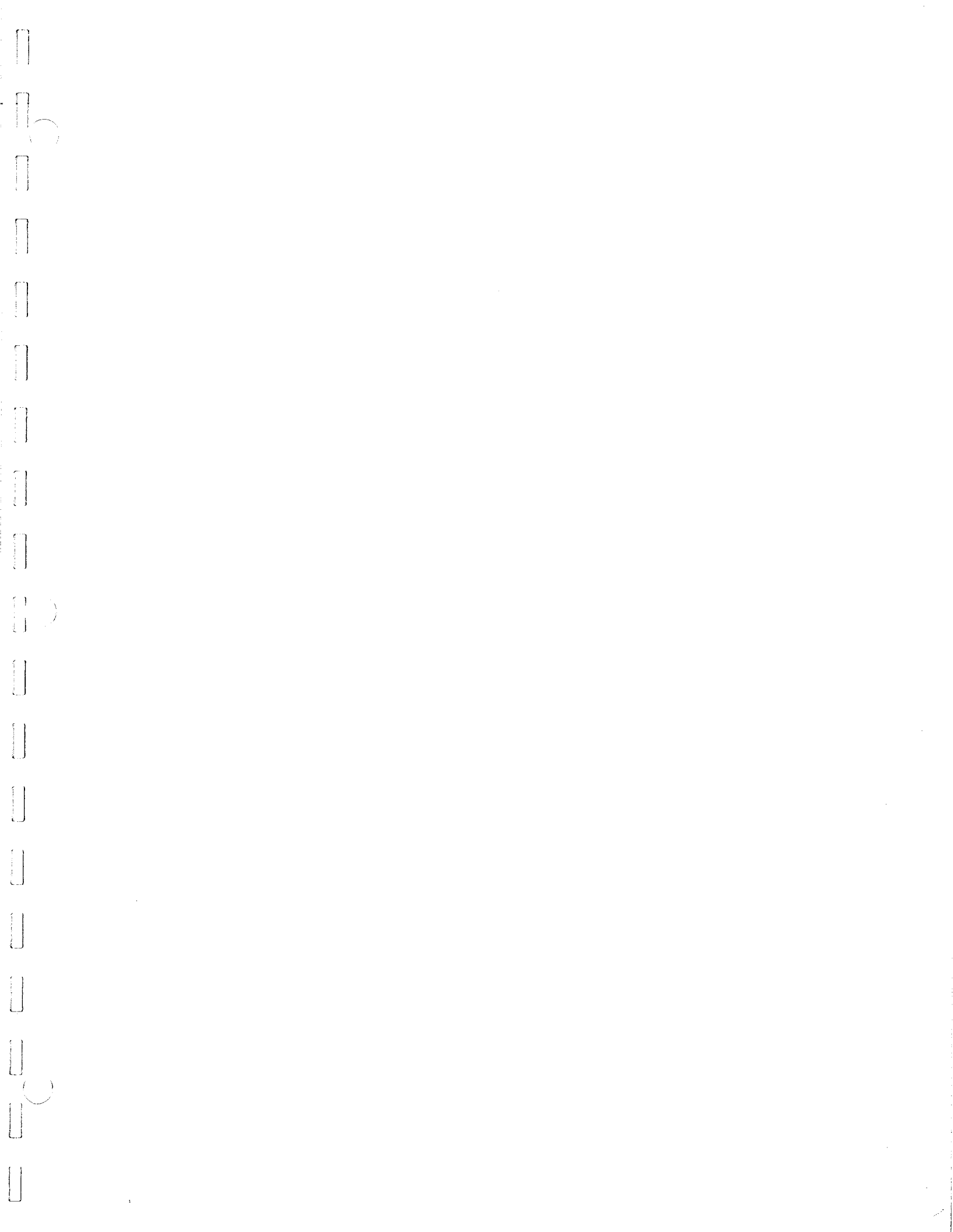
The City of Manchester's (EPD) operating budget is supported by sewer user revenues. Revenues are collected from sewer users through a combination of sewer use charges. All sewer users in the City of Manchester pay sewer user fees based on water consumption. The three towns serviced by the EPD are assessed fees based on their measured sewer flows and loadings into the Manchester Sewer System.

Part 4 - 4 Narrative Description of the Sewer Use Ordinance

The EPA and the Mayor and Board of Aldermen adopted the City Sewer Use Ordinance in 1997. The Ordinance is effective and adequate in addressing the requirements of Part 403 of the Federal Pretreatment Program requirements.

The few minor changes since adoption have been submitted with the updated IPP sent to EPA on May 11, 2007. On August 22, 2007, EPA responded to the proposed Streamlining Rule modifications to the latest version of the Sewer Ordinance. This was adopted by Board of Mayor and Alderman on November 18, 2014.

Presently there are no new adoptions planned in the near future for EPA or the State of New Hampshire Department of Environmental Services to review.



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Information Required By EPA

Section Five

Summary of Analytical Data.

This section includes the following data:

1. Summary of POTW Annual Influent Monitoring Results for the period of June 2020 through May 2021 compared to threshold inhibition concentrations. *See Appendix F*
2. Summary of POTW Annual Effluent Monitoring Results for the period of June 2020 through May 2021 compared to threshold inhibition concentrations. *See Appendix G*
3. Summary of Sludge Priority Pollutant Analysis Data for the period of June 2020 through May 2021
See Appendix H
4. Executive Summary of the Analytical Data is attached in the form of tables. The toxicity data is presented in this report using the summary sheets submitted by the contracted laboratory.

June 1, 2020 to May 31, 2021

INFLUENT SAMPLING RESULTS

INFLUENT INFORMATION		State H2O Quality Criteria		Criteria Corrected for 7Q10		State H2O Quality Criteria		Criteria Corrected for 7Q10		Compliance Status
Date of Analysis	5/21/2021	Criteria	Acute	Acute	Chronic	Chronic	Chronic	Chronic	Chronic	
Lab I.D.	226617									
Listed Parameter	Concentration mg/l	Concentration mg/l (*)	Concentration mg/l	Concentration mg/l (*)	Concentration mg/l (*)	Concentration mg/l (*)	Concentration mg/l	Concentration mg/l	Concentration mg/l	Yes or No
Antimony										
Aluminum	0.3									
Arsenic	0.0016	0.36	4.2552	0.19	2.24580	Yes				
Barium										
Beryllium										
Cadmium	<0.001	0.00082	0.00969	0.00038	0.0044916	Yes				
Calcium										
Chromium	0.0018	0.176	2.08032	0.057	0.67374	Yes				
Copper	0.03	0.0046	0.054372	0.0035	0.04137	Yes				
Hardness										
Fluoride										
Iron										
Lead	0.0022	0.014	0.16548	0.00055	0.0065010	Yes				
Magnesium										
Mercury	0.0000273	0.00204	0.02411	0.000012	0.000142	Yes				
Molybdenum										
Nickel	0.0025	0.438	5.17716	0.0487	0.57563	Yes				
Phenolic (T)	<0.05									
Selenium										
Silver	<0.001	0.00032	0.0037824			Yes				
Thallium	<0.001									
Vanadium										
Zinc	0.063	0.0354	0.418428	0.0322	0.38060	No				
Cyanide		0.022	0.26004	0.0052	0.06146	Yes				
Oil & Grease	49.00									
Oil & Grease W/SGT										
T. Phosphorus	4.10									
ORGANICS	See Note below									
added 625	1,2 diphenylhydrazine									
3 and 4 methylphenol (p-cresol)										

The sample was tested for 624-625

*The Merrimack River 7Q10 is at 412 MGD

Manchester has an average daily flow of 26 MGD and the correction factor is 11.82X

EFFULGENT INFORMATION		State H2O Quality Criteria		Criteria Corrected for 7Q10		State H2O Quality Criteria		Criteria Corrected for 7Q10		Compliance Status
Date of Analysis	5/21/2021	Criteria		Acute		Chronic		Chronic		
Lab I.D.	226617	Acute		Acute		Chronic		Chronic		
Listed Parameter	Concentration mg/l	Concentration mg/l (*)		Concentration mg/l (*)		Concentration mg/l (*)		Concentration mg/l		Yes or No
Antimony										
Aluminum	0.033									
Arsenic	0.0015	0.36		4.2552		0.19		2.24580		Yes
Barium										
Beryllium										
Cadmium	<0.001	0.00082		0.00969		0.00038		0.0044916		Yes
Calcium										
Chromium	<0.001	0.176		2.08032		0.057		0.67374		Yes
Copper	0.0054	0.0046		0.054372		0.0035		0.04137		No
Hardness										
Fluoride										
Iron										
Lead	<0.0005	0.014		0.16548		0.00055		0.0065010		Yes
Magnesium										
Mercury	0.0000065	0.00204		0.02411		0.000012		0.000142		Yes
Molybdenum										
Nickel	0.0019	0.438		5.17716		0.0487		0.57563		Yes
Phenolic (T)	<0.05									Yes
Selenium										
Silver	<0.001	0.00032		0.0037824						Yes
Thallium	<0.001									Yes
Vanadium										
Zinc	0.038	0.0354		0.418428		0.0322		0.38060		No
Cyanide		0.022		0.26004		0.0052		0.06146		Yes
Oil & Grease	<6									
Oil & Grease W/SGT										
T. Phosphorus	1.9									
ORGANICS	See Note below									
added 625	1,2 diphenylhydrazine									

The sample was tested for 624-625

*The Merrimack River 7Q10 is at 412 MGD

Manchester has an average daily flow of 26 MGD and the correction factor is 11.82X

June 1, 2020 - May 31, 2021

Sludge Sampling Results

Date Received	6/8/2020	7/30/2020	8/20/2020	9/18/2020	TCLP Limits	NPDES	503 Rags	State NH (1)	State of
Lab ID Number	211309	213674	214692	215936	Criteria	Permit 5/1/15	Sub B (1)	Criteria	Compliance
Listed Parameter	ug/g	ug/g	ug/g	ug/g	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.
Aluminum	2900.00	5900.00	4500.00	3900.00					
Antimony	2.40	1.90	1.90	2.20					
Arsenic	4.10	6.10	5.60	5.90	100	8,573	41	32	Yes
Barium	210.00	300.00	230.00	200.00	2,000				
Beryllium	<0.5	<0.5	<0.5	<0.5					
Boron	<5	6.50	7.90	9.20					
Cadmium	1.40	1.40	1.10	1.20	20	43,416	39	14	Yes
Chromium	17.00	21.00	19.00	19.00	100	1,423,398	1,200	1,000	Yes
Copper	230.00	310.00	330.00	320.00			1,500	1,500	Yes
Iron	7600.00	9800.00	9700.00	8800.00					
Lead	29.00	40.00	26.00	34.00	100	262,781	300	300	Yes
Mercury	0.46	0.60	0.35	0.71	4		17	10	Yes
Molybdenum	7.40	6.30	8.60	3300.00			75	35	Yes
Nickel	9.80	11.00	13.00	14.00		213,643	420	200	
Selenium	3.90	3.70	3.50	3.20	20		100	28	Yes
Silver	2.00	2.00	2.00	3.10	100				Yes
Thallium	<0.5	<0.5	<0.5	<0.5					
Vanadium	6.90	10.00	8.90	8.40					
Zinc	560.00	670.00	710.00	680.00			2,800	2,500	Yes
% Solids	24.10%	24.20%	19.20%	18.00%					
Free Lq (Paint Filter)	Absent	Absent	Absent	Absent					
% Carbon	48.7	46.9	55.6	47.1					
Total Organic Carbon									
% CaCO3 -eq.	25000	25000	22000	35000					
pH (Soil)									

Date of Analysis	6/8/2020	7/30/2020	8/20/2020	9/18/2020
Lab ID Number	211309	213674	214692	215936
Concentration ug/g dr:	mg/Kg	mg/Kg	mg/Kg	mg/Kg

acetone		260.00	130.00	
2-Butanone (MEK)	10.00	67.00	61.00	
1,2-dichloroethane				
1,1-dichloroethene				
1,4-dichlorobenzene				
benzene				
carbon tetrachloride				
Toluene	4.60	9.40	8.30	48.00
chloroform				
methyl ethyl ketone				
tetrachloroethene				
trichloroethene				
vinyl chloride				
2-methylphenol (m-cresol)				
3-4-methylphenol(p-o-c)				
1,4 dichlorobenzene				
o-cresol				
m-cresol				
p-cresol				
2,4-dinitrotoluene				
hexachlorobenzene				
hexochloro-1,3-butadiene				
phenathrene				
methylene chloride				
Fluoranthene				
Pyrene				
Chysene				
benzo(b)fluranthene				
p-isopropyltouluene		0.45	0.69	2.4

Date Received	10/8/2020	11/28/2020	12/18/2020	1/10/2021	TCLP Limits	NPDES	503 Rags	State NH (1)	State of
Lab ID Number	216902	219581	220257	205580	Criteria	Permit 5/1/15	Sub B (1)	Criteria	Compliance
Listed Parameter	ug/g	ug/g	ug/g	ug/g	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.
Aluminum	4600.00	5100.00	4300.00	2900.00					
Antimony	2.30	2.30	1.90	1.70					
Arsenic	5.40	5.90	4.60	4.00	100	8,573	41	32	Yes
Barium	220.00	200.00	310.00	190.00	2,000				
Beryllium	<0.5	<0.5	<0.5	0.21					
Boron	8.50	<5	<5	<5					
Cadmium	1.30	1.10	2.30	2.80	20.0	43,416	39	14	Yes
Chromium	22.00	18.00	18.00	12.00	100	1,423,398	1,200	1,000	Yes
Copper	390.00	230.00	280.00	160.00			1,500	1,500	Yes
Iron	9100.00	8500.00	7100.00	6400.00					
Lead	41.00	45.00	32.00	22.00	100	262,781	300	300	Yes
Mercury	0.51	0.44	0.52	0.50	4.0		17	10	Yes
Molybdenum	9.70	4.70	4.50	3.50			75	35	Yes
Nickel	11.00	13.00	12.00	7.20		213,643	420	200	
Selenium	4.50	3.60	3.60	2.50	20.0		100	28	Yes
Silver	2.60	1.90	2.50	1.40	100				Yes
Thallium	<0.5	<0.5	<0.5	<0.5					
Vanadium	9.40	11.00	8.30	11.00					
Zinc	520.00	510.00	600.00	370.00			2,800	2,500	Yes
% Solids	19.30%	26.60%	24.90%	25.00%					
Free Lq (Paint Filter)	Absent	Absent	Absent	Absent					
% Carbon	50.1	46.9	49.1	50.1					
Total Organic Carbon									
% CaCO3 -eq.	38000	29000	26000	29000					
pH (Soil)									

Date of Analysis	10/8/2020	12/3/2020	12/18/2020	1/10/21
Lab ID Number	216902	219581	220257	205580
Concentration ug/g	mg/Kg	mg/Kg	mg/Kg	mg/Kg

acetone	52.00	120.00	96.00	120.00
2-Butanone (MEK)	28.00	51.00	39.00	37.00
1,2-dichloroethane				
1,1-dichloroethene				
1,4-dichlorobenzene				
benzene				
carbon disulfide	1.40			
Toluene	19.00	9.10	4.00	11.00
chloroform				
methyl ethyl ketone				
tetrachloroethene				
trichloroethene				
vinyl chloride				
2-methylphenol (m-cresol)				
3-4-methylphenol(p-o-c)				
1,4 dichlorobenzene				
o-cresol				
m-cresol				
p-cresol				
2,4-dinitrotoluene				
hexachlorobenzene				
hexachloro-1,3-butadiene				
hexachloroethane				
nitrobenzene				
pentachlorophenol				
Pryidine				
2,4,5-trichlorophenol				
2,4,6-trichlorophenol				
p-isopropyltoluene	1.7	0.59	0.72	

Date Received	2/17/2021	3/23/2021	4/22/2021	5/14/2021	TCLP Limits	NPDES	503 Rags	State NH (1)	State of
Lab ID Number	222370	223608	225166	226322	Criteria	Permit 5/1/15	Sub B (1)	Criteria	Compliance
Listed Parameter	ug/g	ug/g	ug/g	ug/g	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.	mg/kg dry wt.
Aluminum	2400.00	3400.00	9000.00	4400.00					
Antimony	2.10	1.70	3.10	1.70					
Arsenic	3.00	3.70	8.40	4.70	100	8,573	41	32	Yes
Barium	200.00	210.00	330.00	300.00	2,000				
Beryllium	<0.5	<0.5	<0.5	<0.5					
Boron	5.20	<5	10.00	<50					
Cadmium	2.50	2.40	3.40	2.50	20.0	43,416	39	14	Yes
Chromium	20.00	18.00	66.00	19.00	100	1,423,398	1,200	1,000	Yes
Copper	710.00	180.00	370.00	240.00			1,500	1,500	Yes
Iron	6600.00	7000.00	17000.00	6800.00					
Lead	52.00	21.00	75.00	26.00	100	262,781	300	300	Yes
Mercury	0.26	0.36	0.90	0.44	4.0		17	10	Yes
Molybdenum	3.80	3.60	8.30	4.50			75	35	Yes
Nickel	11.00	8.60	32.00	10.00		213,643	420	200	
Selenium	3.50	2.90	4.90	4.00	20.0		100	28	Yes
Silver	1.80	2.60	2.90	2.12	100				Yes
Thallium	<0.5	<0.5	<0.5	<0.5					
Vanadium	6.60	9.70	21.00	7.40					
Zinc	500.00	420.00	1000.00	550.00			2,800	2,500	Yes
% Solids	23.80%	23.90%	29.10%	26.60%					
Free Lq (Paint Filter)	Absent	Absent	Absent	Absent					
% Carbon	49.8	48.3	45.8	49.2					
Total Organic Carbon									
% CaCO3 -eq.	35000	31000	51000	25000					
pH (Soil)									
Date of Analysis	2/17/2021	3/23/2021	4/23/2021	5/17/2021					
Lab ID Number	222370	223608	225166	226322					
Concentration ug/g dr	mg/Kg	mg/Kg	mg/Kg	mg/Kg					
acetone	160.00	180.00	44.00	57.00					
2-Butanone (MEK)	48.00	49.00	14.00	18.00					
1,2-dichloroethane									
1,1-dichloroethene									
1,4-dichlorobenzene	2.80								
benzene									
carbon tetrachloride									
Toluene	73.00		4.30	5.40					
chloroform									
methyl ethyl ketone									
tetrachloroethene									
trichloroethene									
vinyl chloride									
2-methylphenol (m-creasol)									
3-4-methylphenol(p-o-c)									
1,4 dichlorobenzene									
o-cresol									
m-cresol									
p-cresol									
2,4-dinitrotoluene									
hexachlorobenzene									
hexochloro-1,3-butadiene									
hexachloroethane									
nitrobenzene									
pentachlorophenol									
Pryidine									
2,4,5-trichlorophenol									
2,4,6-trichlorophenol									
p-isopropyltouluene			0.34						

City of Manchester, NH Environmental Protection Division (EPD)
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SDG: 15857 July 14, 2020 - July 21, 2020

EXECUTIVE SUMMARY

The following summarizes the results of modified acute and chronic whole effluent toxicity (WET) tests completed with samples collected from Manchester, NH Wastewater Treatment Facility (NPDES Permit #0100447). Acute and chronic toxicity were evaluated using daphnids, (*Ceriodaphnia dubia*) and flathead minnows, (*Pimephales promelas*).

Daphnid neonates from in-house cultures were collected within an eight-hour time span and were less than 24-hrs old when the test was started. Minnows were acquired from Aquatic BioSystem, Inc. of Fort Collins, Colorado and were one day old when the test was started. According the chain of custody, effluent samples were 24hr. composite while the Merrimack River samples, used as dilution water, were river grab samples. Samples were received and transported by Aquatec Environmental staff under chain of custody, packed in ice and delivered on the same day (July 13, 15 and 17 2020). Sample receipt, test conditions and control endpoints were within protocol specifications.

The results presented in this report relate to the samples described on the chain(s)-of-custody and are intended to be used only by authorized personnel of the City of Manchester, NH. Results from acute and chronic WET tests and their relationship to permit limits from July 2020 sampling are summarized below.

Acute Toxicity Evaluation

Species	Exposure	LC-50	A-NOEC	Permit Limit (LC-50)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
Ceriodaphnia dubia	48-Hours	>100 %	100%	100 %	Yes	Yes
Pimephales promelas	48-Hours	>100 %	100%	100 %	Yes	Yes

Chronic Toxicity Evaluation

Species	Exposure	C-NOEC	IC-25	Permit Limit (C-NOEC)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
Ceriodaphnia dubia	6 Days	100 %	>100%	8.5 %	Yes	Yes
Pimephales promelas	7 Days	50 %	>100%	8.5 %	Yes	Yes

COMMENTS:

City of Manchester, NH Environmental Protection Division (EPD)
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SDG: 15955 October 20 - October 27, 2020

EXECUTIVE SUMMARY

The following summarizes the results of modified acute and chronic whole effluent toxicity (WET) tests completed with samples collected from Manchester, NH Wastewater Treatment Facility (NPDES Permit # NH0100447). Acute and chronic toxicity was evaluated using daphnids, (*Ceriodaphnia dubia*) and flathead minnows, (*Pimephales promelas*).

Daphnid neonates from in-house cultures were collected within an eight-hour time span and were less than 24-hrs old when the test was started. Minnows were acquired from Aquatic BioSystem, Inc. of Fort Collins, Colorado and were one day old when the test was started. According the chain of custody, effluent samples were 24hr. composite while the Merrimack River samples, used as dilution water, were river grab samples. Samples were received and transported by Aquatec Environmental staff under chain of custody, packed in ice and delivered on the same day (October 19, 21 and 23, 2020). Sample receipt, test conditions and control endpoints were within protocol specifications.

The results presented in this report relate to the samples described on the on the chain(s)-of-custody and are intended to be used only by authorized personnel of the City of Manchester, NH. Results from acute and chronic WET tests and their relationship to permit limits from October 2020 are summarized below.

Acute Toxicity Evaluation

Species	Exposure	LC-50	A-NOEC	Permit Limit (LC-50)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
<i>Ceriodaphnia dubia</i>	48-Hours	>100 %	100 %	100 %	Yes	Yes
<i>Pimephales promelas</i>	48-Hours	>100 %	100 %	100 %	Yes	Yes

Chronic Toxicity Evaluation

Species	Exposure	C-NOEC	IC-25	Permit Limit (C-NOEC)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
<i>Ceriodaphnia dubia</i>	7 Days	100 %	>100%	8.5 %	Yes	Yes
<i>Pimephales promelas</i>	7 Days	100 %	>100%	8.5 %	Yes	Yes

COMMENTS:

City of Manchester, NH Environmental Protection Division (EPD)
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SDG: 16050 February 23 – March 2, 2021

EXECUTIVE SUMMARY

The following summarizes the results of modified acute and chronic WHOLE effluent toxicity (WET) tests completed with samples collected from Manchester, NH Wastewater Treatment Facility (NPDES Permit # NH0100447). Acute and chronic toxicity was evaluated using daphnids, (*Ceriodaphnia dubia*) and fathead minnows, (*Pimephales promelas*).

Daphnid neonates from in-house cultures were collected within an eight-hour time span and were less than 24-hrs old when the test was started. Minnows were acquired from Aquatic BioSystem, Inc. of Fort Collins, Colorado and were one day old when the test was started. According to the chain of custody, effluent samples were 24hr. composite while the Merrimack River samples, used as dilution water, were river grab samples. Samples were received and transported by Aquatec Environmental Inc. (Aquatec) under chain of custody, packed in ice and delivered on the same day as collected. Sample receipt, test conditions and control endpoints were within protocol specifications. Initiation of the fathead minnow chronic test was delayed one day due to FedEx shipping delay in delivery of minnows due to a large backlog of packages resulting from the severe winter storms of the prior week.

The results presented in this report relate to the samples described on the on the chain(s)-of-custody and are intended to be used only by authorized personnel of the City of Manchester, NH. Results from acute and chronic WET tests and their relationship to permit limits from February 2021 are summarized below.

Acute Toxicity Evaluation

Species	Exposure	LC-50	A-NOEC	Permit Limit (LC-50)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
<i>Ceriodaphnia dubia</i>	48-Hours	>100 %	100%	100 %	Yes	Yes
<i>Pimephales promelas</i>	48-Hours	>100 %	100%	100 %	Yes	Yes

Chronic Toxicity Evaluation

Species	Exposure	C-NOEC	IC-25	Permit Limit (C-NOEC)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
<i>Ceriodaphnia dubia</i>	7 Days	50 %	87.6%	8.5 %	Yes	Yes
<i>Pimephales promelas</i>	7 Days	100 %	>100%	8.5 %	Yes	Yes

COMMENTS:

City of Manchester, NH Environmental Protection Division (EPD)
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SDG: 16089 April 20 – April 28, 2021

EXECUTIVE SUMMARY

The following summarizes the results of modified acute and chronic whole effluent toxicity (WET) tests completed with samples collected from Manchester, NH Wastewater Treatment Facility (NPDES Permit # NH0100447). Acute and chronic toxicity was evaluated using daphnids, (*Ceriodaphnia dubia*) and flathead minnows, (*Pimephales promelas*).

Daphnid neonates from in-house cultures were collected within an eight-hour time span and were less than 24-hrs old when the test was started. Minnows were acquired from Aquatic BioSystem, Inc. of Fort Collins, Colorado and were one day old when the test was started. According to the chain of custody, effluent samples were 24hr. composite while the Merrimack River samples, used as dilution water, were river grab samples. Samples were received and transported by Aquatec Environmental staff under chain of custody, packed in ice and delivered on the same day as collected. Sample receipt, test conditions and control endpoints were within protocol specifications. Initiation of the flathead minnow chronic test was delayed one day due to a delay FedEx delivery of minnows. The test was started with the second sample to keep within the holding time. An additional sample was collected to use for the last 2 days of the test.

The results presented in this report relate to the samples described on the chain(s)-of-custody and are intended to be used only by authorized personnel of the City of Manchester, NH. Results from acute and chronic WET tests and their relationship to permit limits from April 2021 are summarized below.

Acute Toxicity Evaluation

Species	Exposure	LC-50	A-NOEC	Permit Limit (LC-50)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
<i>Ceriodaphnia dubia</i>	48-Hours	>100 %	100%	100 %	Yes	Yes
<i>Pimephales promelas</i>	48-Hours	>100 %	100%	100 %	Yes	Yes

Chronic Toxicity Evaluation

Species	Exposure	C-NOEC	IC-25	Permit Limit (C-NOEC)	Effluent Meets Permit Limit	Assay Meets Protocol Limits
<i>Ceriodaphnia dubia</i>	7 Days	100 %	>100%	8.5 %	Yes	Yes
<i>Pimephales promelas</i>	7 Days	100 %	>100%	8.5 %	Yes	Yes

COMMENTS:



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Section Six

Description of Interference and Pass-Through

There were no industrial discharges that caused any interference or pass-through with the treatment plant process during the June 1, 2020 through May 31, 2021 reporting period. The aeration system is fully operational and thus, the system is more flexible in handling high loadings and low dissolved oxygen conditions. EPD will continue monitor the conditions and adjust the performance of the plant as needed.



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Section Seven

Investigation of Interference and Pass-Through

The City of Manchester, EPD has taken a proactive approach at sampling the POTW influent and effluent for nutrients, metals and total phosphorus and will continue to do so. EPD has also taken the initiative to sample permitted industrial and Intermunicipal discharges that could potentially contribute to the metals and total phosphorus loadings at the treatment plant. EPD has determined that the Manchester Water Works and Granite Ridge Energy of New Hampshire are two industries that might be contributing to high aluminum levels in the influent during dry weather conditions.

EPD will continue to test for aluminum, mercury and total phosphorus from the contributing towns (Bedford, Goffstown and Londonderry) during the quarterly sampling activities. Sampling of the communities includes the following monitoring of Local Limits for metals of concern (Ag, Al, Cu, Pb, Hg, Zn). The EPA Interim Mercury Control Plan is no longer in effect but, EPD will continue to sampling the Towns on a monthly basis for mercury.

The Town of Bedford quarterly sampling results from June 1, 2020 to May 31, 2021 indicate that they had not exceeded their allowable loadings for any of the parameters that were tested. The additional test results for aluminum, mercury and total phosphorus are provided in the table below.

The additional sampling of:	Aluminum	Mercury	Total Phosphorus
7/22/20	0.190 mg/l	0.00004 mg/l	6.50 mg/l
10/21/20	0.230 mg/l	0.00004 mg/l	11.00 mg/l
2/11/21	0.120 mg/l	0.00002 mg/l	5.50 mg/l
4/15/21	0.380 mg/l	0.00002 mg/l	7.40 mg/l

The Town of Goffstown quarterly sampling results from June 1, 2020 to May 31, 2021 indicate that they had not exceeded their allowable loadings for any of the parameters that were tested. The additional test results for aluminum, mercury and total phosphorus are provided in the table below.

The additional sampling of:	Aluminum	Mercury	Total Phosphorus
7/22/20	0.280 mg/l	0.00002 mg/l	6.70 mg/l
10/21/20	0.460 mg/l	0.00001 mg/l	7.20 mg/l
2/11/21	0.750 mg/l	0.00008 mg/l	6.70 mg/l
4/15/21	0.130 mg/l	0.00002 mg/l	4.20 mg/l

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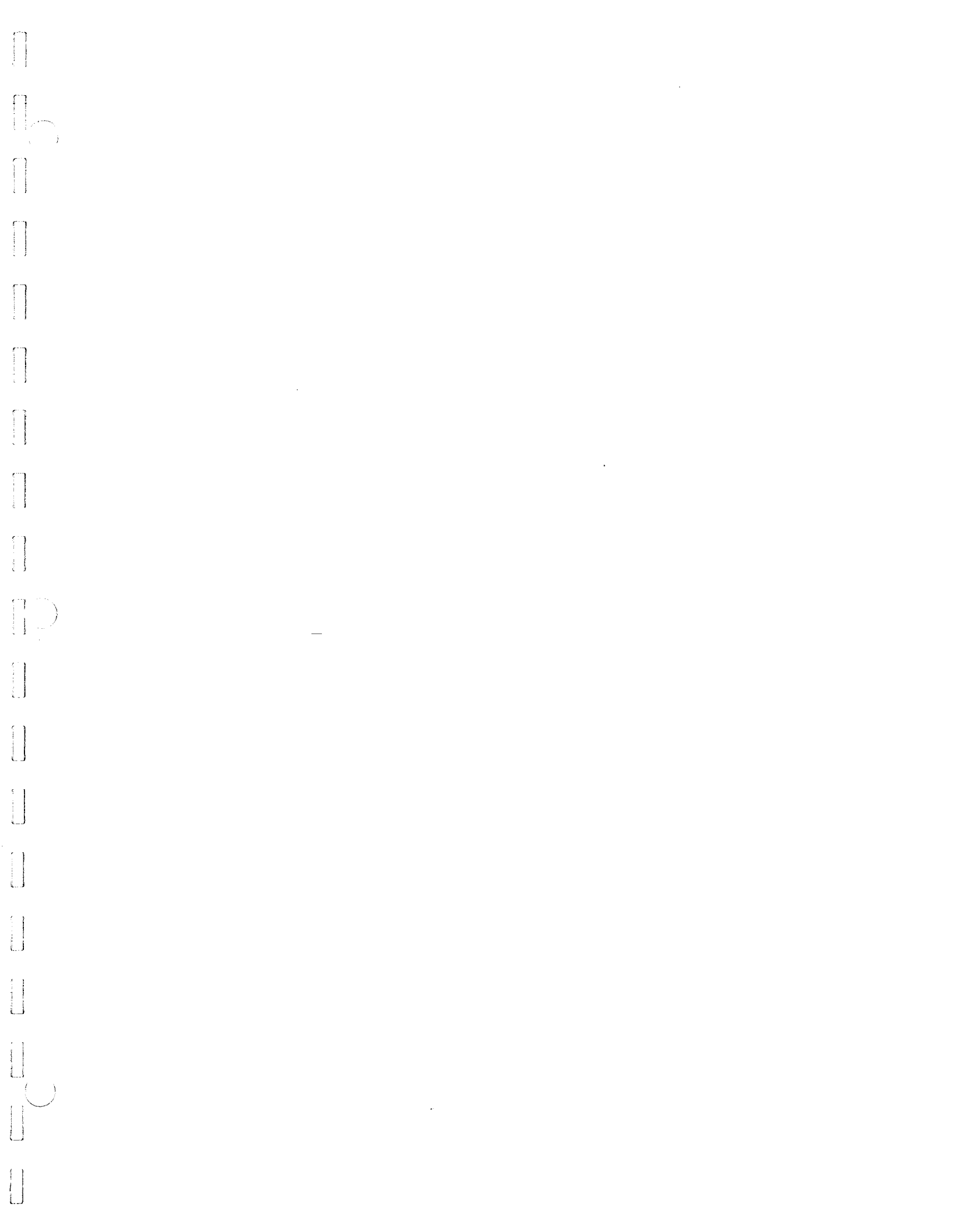
The Town of Londonderry quarterly sampling results from June 1, 2020 to May 31, 2021 indicate that they had not exceeded their allowable loadings for any of the parameters that were tested. The additional test results for aluminum, mercury and total phosphorus are provided in the table below.

The additional sampling of:

	Aluminum	Mercury	Total Phosphorus
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7/22/20	3.50 mg/l	0.00009 mg/l	6.70 mg/l
10/21/20	1.20 mg/l	0.00001 mg/l	11.00 mg/l
2/11/21	0.59 mg/l	0.00004 mg/l	6.90 mg/l
4/15/21	1.60 mg/l	0.00002 mg/l	12.00 mg/l

EPD will continue to monitor the influent and effluent for those parameters to ensure compliance with effluent requirements.



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Section Eight

Monitoring for Interference and Pass-Through

The City of Manchester, EPD has an active sampling and monitoring program for interference and pass-through. Below are the tests performed for the parameters listed through the reporting period.

1. Influent and Effluent monitoring for metals, total phosphorous, cyanide, volatile and semi-volatile organics (priority pollutant scan).
2. Quarterly toxicity testing as outlined within the NPDES Permit.
3. Monthly Sludge analysis for metals. Testing includes the required total metals analysis (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Zinc, and EPA added Aluminum), but also included some TCLP and organics analysis when sludge must be landfilled during incinerator shutdown.
4. Semi-Annual Ash monitoring for all priority pollutants.
5. Annual Grits & Screening monitoring for all priority pollutants.
6. Increased Class II Industrial sampling during permit renewals above what is required in the approved IPP.
7. Continued Effluent monitoring on a monthly basis. Since 2015, EPD has been monitoring the effluent twice a month for grab samples for Copper, Lead and Total Phosphorous due to the fact that those parameters are a requirement in our current NPDES permit. In 2020, Total Nitrogen, Nitrite and Ammonia were added.
8. In 2019, EPD began sampling on a monthly basis for PFAS (16 compounds) for the influent, effluent, landfill leachate, septage, sludge and ash solids.
9. Sampling of Intermunicipal Agreement communities (Bedford, Goffstown and Londonderry) includes the following monitoring of Local Limits for metals of concern (Ag, Al, Cu, Pb, Hg, Zn) and Total Phosphorous. The EPA Interim Mercury Control Plan is no longer in effect, EPD will continue to sampling the Towns on a monthly basis for mercury.
10. The Town of Londonderry discharge is monitored for excessive metals, organics, sulfides and other inorganics.
11. The City shall continue to monitor mercury in accordance with the Interim Mercury Control Plan instituted by EPA under the air emissions requirements. Below are control measures to assist in the investigation of mercury in the POTW incinerator emissions:

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- a. The IPP will continue to evaluate (a) the self-monitoring reports submitted by all facilities discharging to the WWTP under a municipal Industrial Discharge Permit (each hereinafter an Industrial Permittee), and (b) the results of annual Industrial Permittee wastewater sampling performed by Manchester, to determine the facilities that have the highest mercury content of wastewater by weight discharged to the WWTP for the past three years (Industrial Permittee wastewater is sampled at least three times per year, twice per year for the self-monitoring reports and once per year by Manchester).
- b. Collect wastewater samples from the three (3) existing intermunicipal metering stations that have Intermunicipal Agreements with Manchester (Bedford, Goffstown, and Londonderry) on a monthly basis, rather than the previous quarterly basis. This is to evaluate the mercury content by weight in the wastewater discharged from each town to the WWTP. These results will determine whether a town has exceeded its limit for mercury.
- c. As done in the past, in the event that the increased wastewater sampling identifies a mercury exceedance by a town, Manchester will send an outreach letter to the Town's Department of Public Works asking for their assistance in reducing mercury in its wastewater discharge and will schedule a meeting with the town to discuss how best to address the exceedance.

The IPP plan to schedule a dental office inspection under the Dental Amalgam Program under this upcoming permit year. During previous years, the IPP has conducted those inspections every two years. Currently, EPD has not completed all the inspections due to the COVID-19 shut down of the dentistry businesses. Starting in August 2021, EPD will begin another round of inspections and anticipates all inspections will be completed by November 2021.



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Information Required By EPA

Section Nine

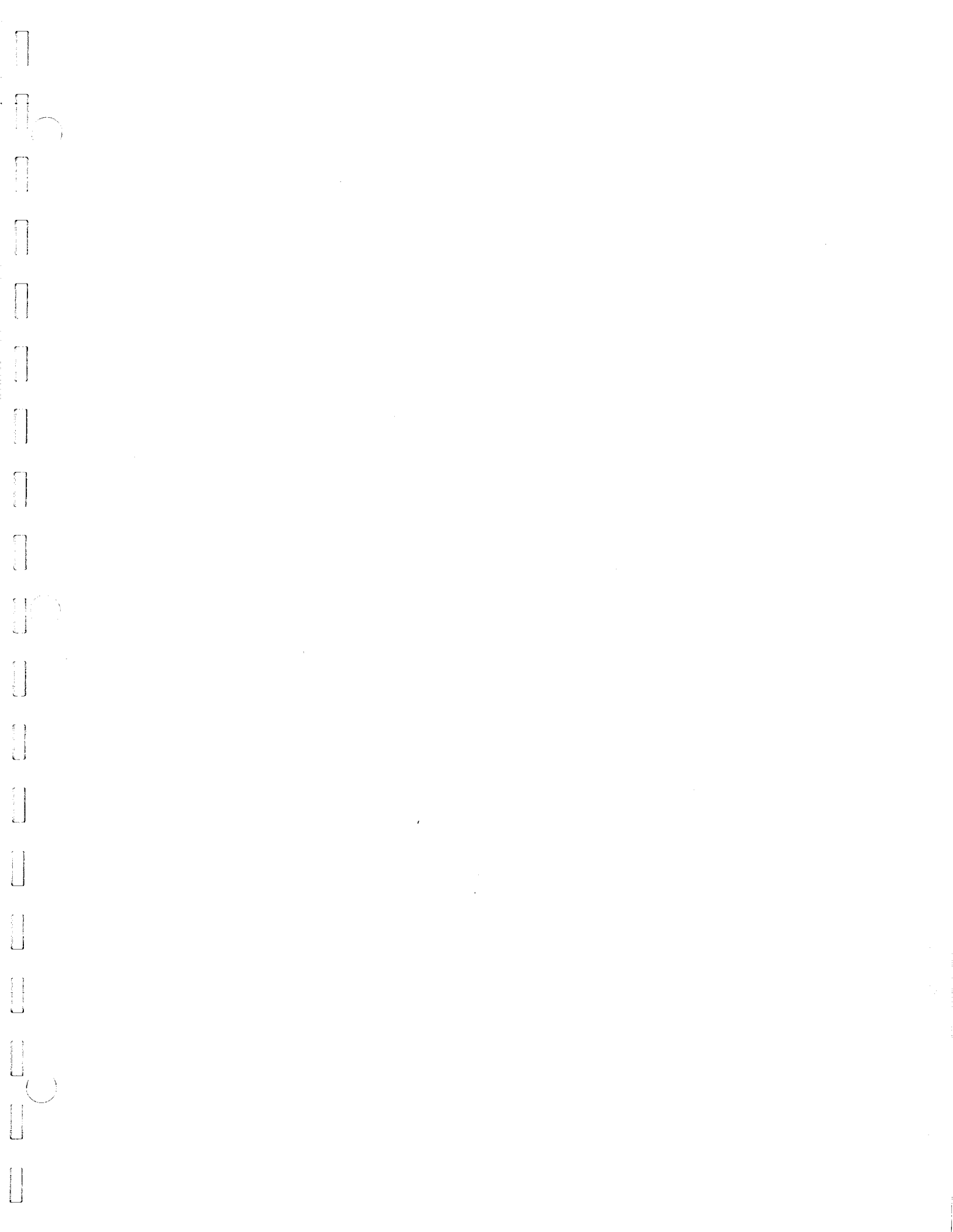
Reduction Efforts for SNC SIUs

The City of Manchester, EPD continues to be persistent in notifying each industry of potential late sampling and reporting requirements as outlined in their permits. The industrial sampling, both City unannounced and industrial self-monitoring, indicate that all permitted Class I CIUs/SIUs are discharging within their categorical and/or headworks loading concentrations.

EPD is continuing to take a proactive approach in investigating potential new industries. The IPP conducts an initial walk through; gathers flow information (water consumption) through with the City's billing department; logs them into a database; and gathers potential hazardous substances usage to evaluate if a permit is warranted.

EPD takes a proactive approach with spill investigations. The IPP works closely with the City's Board of Health Department, Sewer Department and Engineering Department to identify and estimate any potential illicit dischargers.

EPD / IPP joined the City of Manchester's Local Emergency Planning Committee (LEPC) to collect information on any industries that might require a discharge permit. Unfortunately, due to continued logistical issues there has not been any recent activity.



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Section Ten

Local Limits Adoption

The local limits are current and technically based. The EPA accepted the limits with notification to the City of Manchester on March 18, 1997. The City formerly adopted the limits within the Sewer Use Ordinance on August 5, 1997.

The City of Manchester's NPDES permit became effective May 1, 2015. Including in the permit was a requirement to submit a "Reassessment of Technically Based Local Limits" within 180 days of the effective date of the permit.

On October 26, 2015, EPD submitted to EPA a proposal to the Reassessment of the Technically Based Local Limits. The City believes that this assessment confirms that Manchester's current Local Limits Headwork's Allocation is sound, conservative and protective of the wastewater treatment operations. As a result, the current WWTP discharge permit requires monthly monitoring of effluent copper with an average monthly limit of 24 ug/l. There is chronic toxicity-reporting requirement of >8.5% for NOEC and an acute toxicity requirement of an LC50 of >100%.

EPD is anticipating that there will be another requirement to review the technically based local limits when the new NPDES is issued to the City.